

SERIAL NO. 09/426,644**DOCKET NO. 1349.1022**

of the Other Device shows an operation of splitting the fluid jetting apparatuses in the form of a wafer into separate fluid jetting apparatuses. On page 4 of the Office Action, the Examiner clarifies that the paragraph bridging page 2 to the top of page 3 of the specification teaches that the completed apparatus shown in FIG. 1 is sectioned.

By way of review, claim 1 recites, among other features, "adhering a membrane to the formed nozzle part and a heat driving part including fluid chambers for the corresponding fluid jetting apparatuses so as to position the membrane between the heat driving part and the nozzle part to separate the fluid chambers from nozzles of the nozzle part in order to form the fluid jetting apparatuses in a shape of an undivided wafer to be split into separate fluid jetting apparatuses."

In contrast, the Other Device forms individual jetting apparatuses by adhering individual components to a roll of nozzle part material 32. As such, while the nozzle part material 32 is connected for multiple resulting nozzles, the remaining portions (i.e., elements 40 and 55) are individually attached. Specifically, in order to form the separate nozzle parts 30, a roll of material for the nozzle plates 32 moves past the treating apparatus 53. The nozzles 34 are formed on areas that become the nozzle plates 32. After the nozzles 34 are formed, the individual nozzle plates 32 are mated with a corresponding actuator chip 40. The actuator chip 40 includes a lamination of the jetting fluid barrier 31 to the substrate 11 shown in FIG. 1. As shown in FIG. 2, the actuator chip 40 is individually attached to the nozzle plates 32.

However, since the actuator chip 40 includes a fluid jetting barrier 31 and a heating element 14 for a nozzle 34 for a single fluid jetting apparatus as shown in FIG. 1, there is no suggestion of an element that is mated to the nozzle material 32 and which includes plural heating elements 14 or jetting fluid chambers 33, or that another element is disposed between plural fluid jetting chambers 33 of multiple adjacent actuator chips 40 and multiple nozzles 34 in the nozzle material 32 in FIG. 2.

As such, it is respectfully submitted that the Other Device does not disclose or suggest

SERIAL NO. 09/426,644**DOCKET NO. 1349.1022**

"adhering a membrane to the formed nozzle part and a heat driving part including fluid chambers for the corresponding fluid jetting apparatuses so as to position the membrane between the heat driving part and the nozzle part to separate the fluid chambers from nozzles of the nozzle part in order to form the fluid jetting apparatuses in a shape of an undivided wafer to be split into separate fluid jetting apparatuses" as recited in claim 1.

For at least similar reasons, it is respectfully submitted that the Other Device does not disclose or suggest "adhering the membrane with the adhered nozzle part to a heat driving part such that the membrane is between chambers in the heat driving part and jetting fluid chambers of the nozzle part to form the fluid jetting apparatuses as an undivided unit" as recited in claim 17.

Additionally, on page 3 of the Office Action, the Examiner rejects claim 17 and asserts that it would have been inherent to remove the nozzle material 32 from a silicon wafer since the Other Device shown in FIG. 1 does not include a silicon wafer.

By way of review, claim 17 recites, among other features, "forming a nozzle part on a silicon wafer by a spinning process," "adhering the nozzle part with the silicon wafer to a membrane," and "removing the silicon wafer from the nozzle part." Claim 17 further recites that "adhering the membrane with the adhered nozzle part to a heat driving part such that the membrane is between chambers in the heat driving part and jetting fluid chambers of the nozzle part to form the fluid jetting apparatuses as an undivided unit." As such, claim 17 recites removing the silicon wafer after the membrane has been attached.

In contrast, as shown in FIG. 2, the completed actuator chip 40, which includes the membrane 20 shown in FIG. 1, is attached to the nozzle plate 32. There is no suggestion of a silicon wafer being removed in FIG. 2 and, since the completed assembly is rolled into a takeup reel 52 as shown in FIG. 2, there is no suggestion that a wafer is used or is even desirable since the completed assembly must be able to move flexibly in order to be rolled in the takeup reel 52.

SERIAL NO. 09/426,644**DOCKET NO. 1349.1022**

Moreover, while the Examiner asserts that such an operation is inherently provided, under principles of inherency, the Examiner is required to provide evidence that the use of the silicon wafer (and its subsequent removal) is more than a probability and instead necessarily is used in the Other Device. However, the Examiner has not provided evidence of such necessary use, or how the use of the silicon wafer is consistent with the use of the takeup reel 52 flexible nozzle part 32 shown in FIG. 2.

In general, where the Examiner is relying on a feature as being inherently disclosed in a reference, it is incumbent on the Examiner to provide evidence that such a feature necessarily exists in the reference. In re Robertson, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999), Manual of Patent Examination Procedures 2112. This burden of proof is consistent with the requirement that the Examiner provide sufficient evidence that each and every element is disclosed in a combination as is required to make a *prima facie* rejection under 35 U.S.C. §103. Manual of Patent Examination Procedures 2143. As such, it is respectfully submitted that, in addition to the above arguments, the Other Device further does not disclose or suggest "adhering the nozzle part with the silicon wafer to a membrane," and "removing the silicon wafer from the nozzle part" as recited in claim 17.

Claims 2, 38, and 40 are deemed patentable due at least to their depending from corresponding claims 1 and 17.

REJECTION UNDER 35 U.S.C. §103:

In the Office Action at pages 3-4, the Examiner rejects claims 17 and 40 under 35 U.S.C. §103 in view of the Other Device and Japanese Patent Publication No. 10-181029. The rejection is respectfully traversed and reconsideration is requested.

On page 3 of the Office Action, the Examiner asserts that Japanese Patent Publication No. 10-181029 suggests removing a silicon wafer from a nozzle part in view of elements 21 of FIG. 9. On pages 4-5 of the Office Action, the Examiner clarifies that FIG. 9 shows a substrate 100 that is not shown in FIGs. 4, 5, and 7. However, as explained in corresponding U.S. Patent

SERIAL NO. 09/426,644**DOCKET NO. 1349.1022**

No. 5,719,605, Japanese Patent Publication No. 10-181029 teaches a cell 21 of a printhead 29 including a nozzle plate 30 and a chip 20. The cells 21 themselves are diced from a larger wafer 100 shown in FIG. 9 in order to include one or more formed cells 21. As such, each chip 20 is diced from the wafer 100 in order to form the printhead 29 having the cell 21 or cells 21. (Col. 6, lines 31-61 of U.S. Patent No. 5,719,605). Therefore, it is respectfully submitted that the wafer 100 is shown as element 21 in FIGs. 4, 5, and 7 and is not removed in the recited manner.

As such, it is respectfully submitted that neither the Other Device nor Japanese Patent Publication No. 10-181029 disclose or suggest, among other features, "removing the silicon wafer from the nozzle part" as recited in claim 17.

In addition, on page 5 of the Office Action, the Examiner alternately argues that the cutting of the substrate 100 represents a separation of a nozzle part (i.e., the cut chip 20 of FIGs. 4, 5, and 7) from the substrate 100 since the substrate 100 as a whole does not exist in the completed product. However, even assuming arguendo that the Examiner's interpretation is reasonable and that the cut substrate 100 is understandable as being removed, it is respectfully submitted that the use of the substrate 100 shown in FIG. 9 would not be workable in with the completed jetting apparatuses shown in FIG. 2 of the Other Device since there is no suggestion that the substrate 100 has sufficient flexibility to be taken in the takeup reel 52 of FIG. 2.

As noted in MPEP 2143.01, "[I]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)." Thus, references cannot be combined where the proposed combination would so change a basic mode of operation of the primary reference that the combination would not be workable. Since the use of the silicon wafer 100 would appear to change a mode of operation of the Other Device, it is respectfully submitted that there is insufficient evidence to maintain a *prima facie* obviousness rejection of claims 17 and 40 under 35 U.S.C. §103 in view of the Other Device and Japanese Patent Publication No. 10-

SERIAL NO. 09/426,644**DOCKET NO. 1349.1022**

181029.

Lastly, it is respectfully submitted that the Examiner does not rely on Japanese Patent Publication No. 10-181029 as curing the above noted defect of the Other Device as applied to claim 17 as set forth above in the anticipation rejection of claims 1 and 17. As such, it is respectfully submitted that the combination of the Other Device and Japanese Patent Publication No. 10-181029 does not disclose or suggest the invention recited in claim 17.

Claim 40 is deemed patentable due at least to its depending from claim 17.

STATUS OF CLAIMS NOT REJECTED:

On page 5, the Examiner allows claims 13-16, 19, 21, 23, 24, 27, 30, and 42.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited and possibly concluded by the Examiner contacting the undersigned attorney for a telephone interview to discuss any such remaining issues.

SERIAL NO. 09/426,644

DOCKET NO. 1349.1022

If there are any additional fees associated with the filing of this Response, please charge the same to our Deposit Account No. 19-3936.

Respectfully submitted,

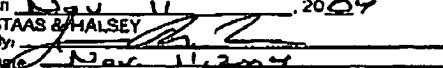
STAAS & HALSEY LLP

By: 
James G. McEwen
Registration No. 41,983

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

Date: Nov. 11, 2004

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being transmitted via facsimile to: Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450
on Nov. 11, 2004
STAAS & HALSEY
By: 
Date: Nov. 11, 2004